

National Institute
of Standards and Technology



National Voluntary
Laboratory Accreditation Program



ISO/IEC GUIDE 25:1990
ANSI/NCSL Z540-1-1994
ISO 9002:1987

Scope of Accreditation

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CALIBRATION LABORATORIES

NVLAP LAB CODE 200123-0

LIBERTY LABS, INC.
1346 Yellowwood Road
P.O. Box 230
Kimballton, IA 51543
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Phone: 712-773-2199 Fax: 712-773-2299
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ELECTROMAGNETIC - RF/MICROWAVE

NVLAP Code: 20/R08
Microwave Antenna Parameters

<i>Range</i>	<i>Best Uncertainty in dB (\pm)^{note 1}</i>	<i>Remarks</i>
Early Designed Biconical Antennas (such as the EMCO 3104)		
30-60 MHz	1.7	
60-300 MHz	1.0	
New Designed Biconical Antennas (such as the EMCO 3110)		
30-90 MHz	1.2	
90-300 MHz	0.9	

December 31, 2000

Effective through

A handwritten signature in black ink that reads 'David F. Alderman'.

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Log-Periodic Antennas (such as the EMCO 3146)

200-1000 MHz	1.0	Vertical
200-1000 MHz	1.1	Horizontal
200-1000 MHz	1.0 to 2.2	Fixed Heights

BiLog Antennas (such as the Chase CBL6111)

20-1000 MHz	0.9
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Dipole Antennas (such as the EMCO 3121)

30-1000 MHz	0.6
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DRWG Horn Antennas (such as the EMCO 3115)

1-18 GHz	1.1	3 Ant. Method, OATS
1-18 GHz	1.2	Standard Field, OATS

Horn Antennas (above 18 GHz)

18-40 GHz	1.2	Standard Field, Anechoic
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LIBERTY LABS, INC.

LISN's

10 kHz to 100 MHz 0.4

Insertion Loss

10 kHz to 100 MHz 0.4

Impedance

Current Probes/Injection Probes

5 Hz - 500 MHz 0.3

Insertion Loss

Absorbing Clamps

30 to 1000 MHz 2.3

CDN'S & 150-50 Ohm Adapters

10 kHz to 230 MHz 0.4

Impedance & Insertion
Loss

Isotropic Probes

10 kHz-1 GHz 2.4

GTEM, Boonton MV

100 MHz - 18 GHz 2.4

GTEM, PWR Sensors

10 kHz - 1 GHz 1.3

Stripline

18-40 GHz 1.9

Standard Field

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LIBERTY LABS, INC.

RF Pre-amps & Amps

10 kHz to 18 GHz 0.4

GAIN Cal

Loop Antennas

1kHz - 30 MHz 1.1

Vacuo Junction

20 Hz - 1 kHz 1.1

Series Resistor

Rod Antennas

100 Hz to 30 MHz 0.5

Using ECSM (Insertion
Loss with Mfr's Fixture)

100 Hz to 10 kHz 1.0

Using NIST 1347

10 kHz to 30 MHz 0.9

Using NIST 1347

RF Insertion Loss

10 kHz to 18 GHz 0.4

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ESD Simulators/Surge Generators

0 to 15 kV ESD Gun 0.3 dB

0 to 6 kV Surge 0.3 dB

1. Represents an expanded uncertainty using a coverage factor, $k=2$.

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